APRIL/MAY 2025

23PCS31 — DIGITAL IMAGE PROCESSING

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Write the elements of Visual perception.
2. Define the term 'Quantization'.
3. What is meant by 'Image enhancement'?
4. State the advantages of Histogram processing.
5. Expand - CCD, PDF.
6. Name any tour mean filters.
7. What is Bit-Plane Coding?
8. List any four image standards.
9. Define the term 'Thresholding'.
10. What is called as Region based segmentation?

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SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Describe some basic relationship between pixels.

Or

(b) Explain the fields that use DIP.

12. (a) Write short notes on Smoothing spatial filters.

Or

(b) Explain the basic Gray level transformations.

13. (a) Illustrate Restoration in the presence of noise only using spatial filtering.

Or

(b) Discuss about Periodic noise reduction by Frequency Domain Filtering.

14. (a) Write about LZW Error-Free Compression.

Or

(b) Give an account on Binary Image Compression.

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15. (a) Discuss on Region splitting and Merging.

Or

(b) Describe the use of motion in segmentation.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Describe the fundamental steps in Digital Image Processing.

17. Elaborate on enhancement using Arithmetic/Logic operations.

18. Explain the Image Degradation/Restoration process.

19. Discuss about Image compression models.

20. Write a detailed note on Region based segmentation.

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